

NOTES ON THE REPRODUCTION OF *NEPHRURUS DELEANI* (REPTILIA: GEKKONIDAE)

Reproductive biology of the knob-tailed geckos (*Nephrurus* spp.) is largely unknown. Although the ecology of some *Nephrurus* has been extensively studied in Western Australia¹, there has been only one report of the clutch and egg sizes for this genus.² Here we report the first successful hatching of eggs from a captive *Nephrurus*.

Nephrurus deleani is the only knob-tailed gecko endemic to South Australia, where it is restricted to the *Acacia* dominated sand dunes surrounding Pernatty Lagoon³. On 24.x.1982 at 2015 hrs. we collected a gravid *N. deleani* (SVL 78 mm, weight 13.0 g) in sand dunes at the type locality of this species (Fig. 1). The specimen was retained to determine egg size, incubation time and hatchling size under laboratory conditions.

The specimen was placed in a small vivarium on a substrate of moistened Vermiculite and maintained at 20°C. On 30.x.1982, two eggs were found buried approximately 2 cm beneath the surface. These were weighed, measured, marked and placed in a sealed container in sterilized Vermiculite mixed with distilled water (100 ml water/150 g Vermiculite).⁴ The container was placed in a thermostatically controlled chamber, where the temperature range was 29°–30.5°C. The eggs were lightly sprayed fortnightly to prevent desiccation and measurements of egg sizes and mass were made regularly (Table 1). Approximately one week prior to emergence the

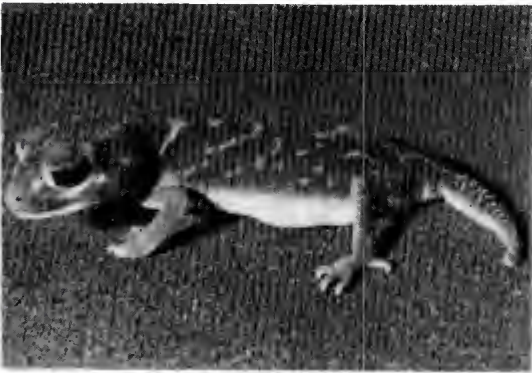


Fig. 1. Female *Nephrurus deleani* (SVL—78 mm, weight 13.0 g) 2 days before parturition.

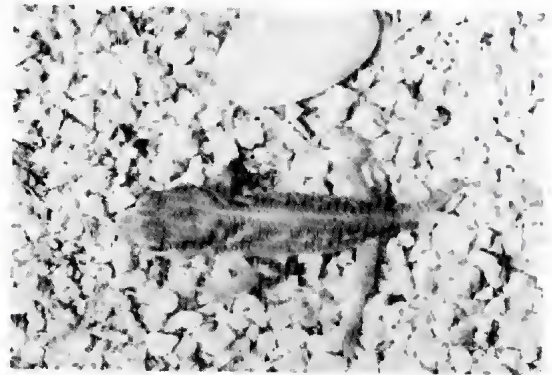


Fig. 2. Hatchling male *Nephrurus deleani* (SVL 36 mm, weight 1.9 g) with unhatched egg.

eggs appeared desiccated and although daily spraying was carried out the appearance of the eggs remained unchanged.

Hatchlings emerged on 25–26.xii.1982 after 55–56 days, incubation. Both specimens emerged from the egg immediately after completing a longitudinal slit in the egg shell. No part of the yolk sac was visible on either specimen.

The hatchlings were much darker than the adult female in colour and possessed a pale vertebral stripe which extended from the occiput to the tip of the tail (Fig. 2). The presence of this vertebral stripe, found only in juvenile *N. deleani*, previously led to some confusion between this species and *N. vertebralis*.³ Both hatchlings has a SVL of 4.5 mm less than the smallest SVL we have recorded from field collected specimens.

Unlike many other species of reptiles, no significant changes were noted in the size of either of the eggs during the incubation period (Table 1).

We have collected gravid specimens of this gecko in January, April, May and October, which indicates that *N. deleani* may reproduce opportunistically, rather than seasonally.

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TABLE 1. Length (L), width (W) and mass (M) of eggs, hatching dates and snout-vent length (SVL), tail length (TL), sex and weight of hatchling *Nephrurus deleani*. L, W, SVL and TL in mm, M in g.

Egg No.	Dates Measured						Dates Hatched			SVL	TL	M	Sex	
	24.x.1982			22.xi.1982			20.xii.1982							(Dec. 1982)
	L	W	M	L	W	M	L	W	M					
1	25	23	2.5	24.8	13.9	2.4	24.8	13.7	2.5	25	36	16	1.9	♂
2	24.5	13.5	2.5	25.5	14.5	2.4	24.0	15.2	2.7	26	37	16	2.1	♂

- ¹Pianka, E. R. & Pianka, H. D. (1976). *Copeia*, 1976 (1), 125-142.
- ³Harvey, C. (1983). *Trans. R. Soc. S. Aust.* 107, 231-235.
- ²Gow, G. F. (1979). *N.T. Nat.* 1, 9-10.
- ⁴Barnett, B. (1982). *Vic. Herpetol. Soc. Newsl.* 1, 1-10.

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